1984 West Coast Troll Log Program

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ABSTRACT

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In 1984 the Pacific Biological Station, Nanaimo, conducted a Troll Log Program on the west coast of British Columbia involving 69 commercial fishing boats. It dealt with two objectives:

1) To provide Catch Per Unit Effort in different statistical areas of the west coast of B.C.

2) To obtain precise information of coded-wire tagged salmon and steelhead as to location of their capture, as well as their size, age, and origin.

Fishermen mailed in daily log sheets and were paid through a Standing Offer Agreement.

RESUME

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En 1984, la station de biologie du Pacifique, à Nanaimo, a mené une enquête sur la pêche à la ligne traînante sur la côte ouest de la Colombie-Britannique concernant 69 bateaux de pêche commerciale. Deux objectifs étaient visés:

1) évaluer le nombre de prises par unité d'effort dans différentes zones statistiques de la côte ouest de la C.-B.

2) obtenir des renseignements précis sur le lieu de capture, la taille, l'âge et l'origine de la truite arc-en-ciel et du saumon marqués au fil codé.

Les pêcheurs ont retourné des relevés quotidiens et ont été payés en vertu d'une offre permanente.

The Pacific Biological Station, Nanaimo, conducted a detailed Troll Log Program in 1981, 1982, and 1983, gathering information on the distribution, abundance and feeding habits of salmon caught by commercial trollers along the West Coast of British Columbia. In addition, adipose-clipped salmon were recovered, and oceanographic observations recorded.

In 1984, the program was continued on a simplified scale. It dealt with two objectives:

1. To provide CATCH PER UNIT EFFORT (CPUE) in different statstical areas. This is expressed in Fish Per Hour.

2. To obtain precise information of coded-wire tagged salmon as to the date and location of their capture as well as their size, age, and origin.

To provide for these two objectives, fishermen were requested to list the following details on their daily troll log sheets:

1. Location fished (by map location or 2 LORAN coordinates)
2. Number of hours fished (Lines in the water)
3. Number of salmon caught (by species)
4. Attaching numbered strap-tags to the heads of adiposed-clipped salmon
5. Measuring and recording fork-length of adipose-clipped salmon
6. Recording flesh colour of adipose-clipped chinook salmon

For this information, the fishermen were paid the sum of $5.00 for each fishing day recorded, plus the sum of $5.00 for each adipose-clipped fish which was found, measured, strap-tagged and delivered.

Fishermen mailed their log sheets to the Biological Station, Nanaimo, in prepaid envelopes as often as possible, usually after each fishing trip.

Strap-tagged heads were recovered at landing sites by personnel of the contracting firm of J.E. SAGER & Associates who also extracted and identified the coded-wire tags from the heads.

The fleet of participating trollers numbered 69 and was made up of fishermen who had previously collected information for the Pacific Biological Station, Nanaimo, in 1981-1983, and of fishermen who had participated in a voluntary logbook program conducted by the Department of Fisheries and Oceans, Vancouver. These two programs were combined and conducted from Nanaimo in 1984.

An effort was made in the selection of the boats to spread the fishing coverage fairly even along the entire coast of British Columbia. This study did not include commercial troll fishing in the Strait of Georgia waters. In the summary, statistical areas of similarity were grouped into regions as follows:

Statistical Areas 1-5 = NORTH COAST
Statistical Areas 6-12 = CENTRAL COAST
Statistical Areas 21-24 = SOUTHWEST VANCOUVER ISLAND
Statistical Areas 25-27 = NORTHWEST VANCOUVER ISLAND

When reviewing the data, one should be reminded of the different fishing regulations which were in effect for different regions. These were as follows:

NORTH COAST AND CENTRAL COAST

Open May 23 - June 3
Closed June 4 - June 30
Open July 1 - September 19

Available fishing days: 93

SOUTHWEST AND NORTHWEST VANCOUVER ISLAND

Open April 15 - June 14
Closed June 15 - June 30
Open July 1 - September 19

Available fishing days: 142.

Coho season in all regions started on July 1.

ADIPOSE-CLIPPED SALMON RECOVERED:

Number of heads recovered

This figure is the sum of all salmon heads strap-tagged and listed by fishermen on their log sheets.

Number of heads not recovered

This figure is the total of all heads which were not recovered for various reasons, for instance:

1. Fish were sold whole by fish buyers to U.S. markets.
2. A few fish plant managers were uncooperative and did not permit access to the plant.
3. Fish were landed at isolated locations and unavailable to samplers.

Overall, however, the recovery of heads was very good and better than in any previous year.

Heads with no pins

Some fish shed their tag soon after tagging. Others may have a damaged adipose fin and were not tagged in the first place but fishermen decided to include them as a possible marked fish anyway. Approximately 10% of all adipose-clipped salmon will not have a pin.

Heads with unreadable pins

1. "NO DATA" - In a few cases the code on the wire tag was stamped insufficiently and could not be identified. Listed as unreadable.

2. "LOST PIN" - A few tags were lost during dissection of the head. Also listed as unreadable.

Table 1 gives the CPUE by months for all species of salmon for each statistical area.

Table 2 gives the CPUE by months for all species of salmon for combined statistical areas.

Table 3 gives the recovery of coded-wire tagged coho in each statistical area for the location of their origin.

Table 4 gives the recovery of coded-wire tagged coho in combined statistical areas for the location of their origin.

Table 5 gives the recovery of coded wire tagged chinook in each statistical area for the location of their origin.

Table 6 gives the recovery of coded-wire tagged chinook in combined statistical areas for the location of their origin.

Table 7 gives the ages and mean fork lengths of coded-wire tagged chinook in each statistical area and in combined statistical areas.

Table 8 gives the numbers of coded-wire tagged coho from various release sites in British Columbia.

Table 9 gives the numbers of coded-wire tagged chinook from various release sites in British Columbia.

Table 10 gives the flesh-colour of coded-wire tagged chinook.

Figure 1 shows the catch per hour for COHO in combined statistical areas.

Figure 2 shows the catch per hour for CHINOOK in combined statistical areas.

Figure 3 shows the mean length of CHINOOK in different age classes in combined statistical areas.

Figure 4 shows the percentages of different ages of CHINOOK in combined statistical areas.

Figure 5 shows a map of statistical areas in British Columbia.

Out of 1787 coded-wire tagged coho which had readable pins,
35 were of Age 2 = 2.0%
1748 were of Age 3 = 97.8%
4 were of Age 4 = 0.2%

Besides chinook and coho a few other c.w.t. fish were recovered by troll fishermen:

SPECIES	AREA CAUGHT	AGE	RELEASE SITE
Chum	1	3 year-old	B.C. Deer Bay
Steelhead	1	4 year-old	B.C. Seymour River
Steelhead	11	3 year-old	B.C. Puntledge River
Steelhead	23	3 year-old	U.S. Idaho

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fish plant managers and personnel whose help and cooperation made this program more successful;

the staff of the firm of J. E. Sager & Associates, who did an outstanding job collecting more than 86% of all strap-tagged salmon landed by fishermen;

the following fishermen who participated in the program and made it possible:

M.V. "BALTIC SPIRIT"	MR. STANLEY SAWEL
"BETTY M II"	BILL HAWTHORNTHWAITE
"CHIEF WAMISH"	GERRY BURKHOLDER
"COURAGEOUS"	GARY LIIMATTA
"EDNA-F"	DON ASHBEE
"HARVEST MOON TU"	TONY KARLSSON
"HOPE ISLAND"	ABE VANDERHORST
"ISLAND VENTURE"	VINCE FANTILLO
"MAILE II"	TOM IKEDA
"MERILDA II"	WILLY DUNAN
"NEO"	GREG GOWER
"NORZONE"	BRUCE EVANS

M.V.	"OCEAN PRINCESS"	MR. JOSEPH RUNOWSKI
	"OCEAN RAE"	LARRY MAXWELL
	"PRINCE OF DENMARK"	RICHARD ROUSSIN
	"RONDI"	IAN HORNE
	"ROSAN"	GLENN MORRIS
	"SEABEAM"	DICK WILLIAMS
	"SONORA"	JOSEPH GARCIA
	"SWEET CHANGES"	ROBERT EDWARDS
	"WEST FORELAND"	PATRICK FORREST
	"COWICHAN"	GORDON BROOKS
	"CANADIAN LADY"	NORMAN BETTIS
	"CHRISTINA B"	LAWRENCE HAINES
	"DEANA MAR II"	TOM HOPKINS
	"EARLY SPRING NO. 1"	DONALD BREEDEN
	"EBIE"	WILLIAM FRANCE
	"FLAMINGO"	ROBERT GLOVER
	"HELLS BELLS"	THOMAS DORSETT
	"JOHNNY CANUCK"	JOE KORSA
	"MARCH GIRL"	WAYNE SJOSTROM
	"NORMAN P"	VILNIS KAJACS
	"NORTH ISLAND STAR"	TOM RUSSELL
	"NORTHERN OCEAN"	GARY CADORIN
	"OCEAN TROLLER"	THOMAS EARL
	"OCEAN TWILIGHT"	ERIC OSTROM
	"QUEST II"	JOHN NICHOLSON
	"ROCELIA B"	ALBERT COOTES
	"STAR KING"	BEN DIXON
	"THE ANSWER"	BARRY BURNELL
	"TIDE RIP"	DAVE HARDIE
	"ROSALIE NO. 1"	MARK FREDHEIM
	"CHARIOT"	KENNETH CAMPBELL
	"CROWN"	WILLIAM MCCLEOD
	"EARL ROY"	ROBERT DUNN
	"EQUINOX"	MIKE LEMON
	"EROS"	GEORGE GREER
	"EVENING BREEZE"	PENTI KIISKILA
	"GEORGIANA"	JACK PLACE
	"GLADIATOR"	ERIC ANTILLA
	"GLADYS U"	RAY UBELL
	"HIGH STAR"	WILLIAM PLACE
	"JR II"	WALTER JOHNSON
	"JABBERWOCK"	JOHN BOYTE
	"JALUN RIVER"	JOHN ARMSTRONG
	"MONDAYS CHILD"	BRIAN FORBES
	"NEVER ON SUNDAY"	MARK FORAND
	"NOW THEN"	ALAN CARL
	"PACIFIC BREEZE"	RICHARD JONES
	"PACIFIC KING"	BRUCE ROBERTS
	"RAVEN SPIRIT"	KEN MONROE
	"SILVER TIDE"	RAY SORHEIM
	"SUMMIT"	ROBERT SWEET
	"WILDER"	ROBERT VIERECK

M.V.	"WYVERN"	MR. EDWIN LANDALE
	"ZAYAS"	TEUNIS WESTBROOK
	"MISS HARRIET"	FRANCES SAVOIE
	"MW"	FRED GREEN
	"NIGEI ISLE"	RICHARD JORDAN

Table 1. West coast troll program. Report of catch per unit effort by month and area for 1984.

Area 1	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
May	880.50	413	0.47	0	0.00	1	0.00	3	0.00	1	0.00
June	302.00	160	0.53	0	0.00	0	0.00	9	0.03	0	0.00
July	8,197.50	3,216	0.39	18,007	2.20	601	0.07	36,729	4.48	2,662	0.32
Aug.	6,689.00	4,011	0.60	7,369	1.10	721	0.11	48,862	7.30	1,766	0.26
Sept.	1,914.00	1,140	0.60	1,244	0.65	16	0.01	331	0.17	74	0.04
Total	17,983.00	8,940		26,620		1,339		85,934		4,503	

Area 2E	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
May	184.50	92	0.50	0	0.00	0	0.00	0	0.00	0	0.00
June	41.00	21	0.51	0	0.00	0	0.00	0	0.00	0	0.00
July	819.50	740	0.90	1966	2.40	1	0.00	116	0.14	8	0.01
Aug.	253.00	266	1.05	869	3.43	0	0.00	34	0.13	14	0.06
Sept.	26.00	2	0.08	125	4.81	0	0.00	0	0.00	0	0.00
Total	1,324.00	1,121		2,960		1		150		22	

Area 2W	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
May	11.00	0	0.00	0	0.00	0	0.00	1	0.09	0	0.00
July	978.50	924	0.94	1,007	1.03	23	0.02	505	0.52	44	0.04
Aug.	1,349.50	1,903	1.41	998	0.74	98	0.07	1,126	0.83	51	0.04
Sept.	823.50	1,107	1.34	191	0.23	9	0.01	23	0.03	12	0.01
Total	3,162.50	3,934		2,196		130		1,655		107	

Table 1 (cont'd)

Area 3	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
July	5.50	0	0.00	4	0.73	0	0.00	12	2.18	0	0.00
Total	5.50	0		4		0		12		0	

Area 4	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
May	66.50	14	0.21	0	0.00	0	0.00	2	0.03	0	0.00
June	23.00	5	0.22	0	0.00	0	0.00	0	0.00	0	0.00
Aug.	26.50	3	0.11	46	1.74	0	0.00	35	1.32	2	0.08
Sept.	44.00	10	0.23	74	1.68	0	0.00	11	0.25	0	0.00
Total	166.00	32		120		0		48		2	

Area 5	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
Aug.	76.50	49	0.64	363	4.75	0	0.00	30	0.39	8	0.10
Total	76.50	49		363		0		30		8	

Table 1 (cont'd)

Area 6	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
May	116.00	63	0.54	0	0.00	0	0.00	0	0.00	0	0.00
June	36.00	17	0.47	0	0.00	0	0.00	0	0.00	0	0.00
July	223.00	189	0.85	363	1.63	0	0.00	11	0.05	11	0.05
Aug.	226.50	131	0.58	342	1.51	1	0.00	97	0.43	7	0.03
Sept.	16.00	1	0.06	8	0.50	0	0.00	1	0.06	0	0.00
Total	617.50	401		713		1		109		18	

Area 7	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
May	456.50	242	0.53	0	0.00	0	0.00	0	0.00	0	0.00
June	133.50	74	0.55	0	0.00	0	0.00	0	0.00	0	0.00
July	1,966.00	1,456	0.74	4,268	2.17	10	0.01	130	0.07	45	0.02
Aug.	1,507.50	858	0.57	2,903	1.93	28	0.02	274	0.18	12	0.01
Sept.	461.50	103	0.22	500	1.08	2	0.00	22	0.05	41	0.09
Total	4,525.00	2,733		7,671		40		426		98	

Area 8	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
May	132.00	67	0.51	0	0.00	0	0.00	2	0.02	1	0.01
June	6.00	11	1.83	0	0.00	0	0.00	0	0.00	0	0.00
July	770.00	471	0.61	1,629	2.12	4	0.01	64	0.08	2	0.00
Aug	189.00	54	0.29	603	3.19	8	0.04	19	0.10	6	0.03
Total	1,097.00	603		2,232		12		85		9	

Table 1 (cont'd)

Area 9	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
July	357.00	165	0.46	1,019	2.85	87	0.24	1,310	3.67	257	0.72
Aug.	94.00	28	0.30	161	1.71	19	0.20	475	5.05	56	0.60
Sept.	16.00	6	0.38	15	0.94	0	0.00	0	0.00	0	0.00
Total	467.00	199		1,195		106		1,785		313	

Area 10	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
May	291.00	210	0.72	0	0.00	0	0.00	0	0.00	3	0.01
June	97.50	82	0.84	0	0.00	0	0.00	0	0.00	0	0.00
July	571.00	250	0.44	1,582	2.77	18	0.03	294	0.51	518	0.91
Aug.	432.50	284	0.66	917	2.12	95	0.22	64	0.15	81	0.19
Sept.	115.00	239	2.08	81	0.70	0	0.00	2	0.02	2	0.02
Total	1,507.00	1,065		2,580		113		360		604	

Area 11	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
May	499.50	468	0.94	0	0.00	0	0.00	0	0.00	5	0.01
June	150.00	142	0.95	0	0.00	0	0.00	1	0.01	0	0.00
July	1,695.00	1,040	0.61	5,826	3.44	78	0.05	413	0.24	99	0.06
Aug.	1,221.50	418	0.34	4,706	3.85	51	0.04	76	0.06	20	0.02
Sept.	554.50	600	1.08	481	0.87	1	0.00	1	0.00	3	0.01
Total	4,120.50	2,668		11,013		130		491		127	

Table 1 (cont'd)

Area 12	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
July	22.00	26	1.18	28	1.27	0	0.00	0	0.00	0	0.00
Aug.	7.00	3	0.43	21	3.00	0	0.00	0	0.00	0	0.00
Total	29.00	29		49		0		0		0	

Area 21	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
April	16.50	7	0.42	0	0.00	0	0.00	0	0.00	0	0.00
May	535.00	860	1.61	0	0.00	0	0.00	0	0.00	0	0.00
June	134.00	91	0.68	0	0.00	0	0.00	0	0.00	0	0.00
July	515.00	87	0.17	7,240	14.06	6	0.01	3	0.01	0	0.00
Aug.	709.50	288	0.41	4,961	6.99	7	0.01	0	0.00	0	0.00
Sept.	928.00	198	0.21	5,243	5.65	0	0.00	1	0.00	0	0.00
Total	2,838.00	1,531		17,444		13		4		0	

Area 23	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
April	989.00	1,574	1.59	0	0.00	0	0.00	0	0.00	1	0.00
May	2,790.50	3,524	1.26	0	0.00	0	0.00	0	0.00	1	0.00
June	1,453.50	1,440	0.99	0	0.00	0	0.00	0	0.00	1	0.00
July	1,965.00	2,433	1.24	13,256	6.75	2	0.00	24	0.01	1	0.00
Aug.	2,093.00	1,868	0.89	13,450	6.43	33	0.02	1	0.00	1	0.00
Sept.	878.50	366	0.42	4,055	4.62	0	0.00	0	0.00	0	0.00
Total	10,169.50	11,205		30,761		35		25		5	

Table 1 (cont'd)

Area 24	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
April	282.50	279	0.99	0	0.00	0	0.00	0	0.00	0	0.00
May	795.50	526	0.66	0	0.00	0	0.00	0	0.00	1	0.00
June	444.50	312	0.70	0	0.00	0	0.00	0	0.00	1	0.00
July	1,670.00	1,233	0.74	9,770	5.85	16	0.01	90	0.05	3	0.00
Aug.	767.50	449	0.59	2,615	3.41	83	0.11	2	0.00	0	0.00
Sept.	40.50	9	0.22	34	0.84	0	0.00	0	0.00	0	0.00
Total	4,000.50	2,808		12,419		99		92		5	

Area 25	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
April	14.00	7	0.50	0	0.00	0	0.00	0	0.00	0	0.00
May	76.00	60	0.79	0	0.00	0	0.00	0	0.00	0	0.00
June	10.00	2	0.20	0	0.00	0	0.00	0	0.00	0	0.00
July	1,388.00	459	0.33	8,813	6.35	22	0.02	165	0.12	11	0.01
Aug.	614.00	286	0.47	2,835	4.62	88	0.14	40	0.07	5	0.01
Sept.	144.00	53	0.37	172	1.19	0	0.00	0	0.00	0	0.00
Total	2,246.00	867		11,820		110		205		16	

Area 26	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
April	45.00	45	1.00	0	0.00	0	0.00	0	0.00	0	0.00
May	263.00	174	0.66	0	0.00	0	0.00	0	0.00	2	0.01
June	65.00	45	0.69	0	0.00	0	0.00	0	0.00	0	0.00
July	1,197.50	489	0.41	7,470	6.24	41	0.03	220	0.18	23	0.02
Aug.	947.00	668	0.71	4,354	4.60	145	0.15	64	0.07	11	0.01
Sept.	427.00	267	0.63	1,163	2.72	0	0.00	0	0.00	2	0.00
Total	2,944.50	1,688		12,987		186		284		38	

Table 1 (cont'd)

Area 27	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
April	309.50	173	0.56	0	0.00	0	0.00	0	0.00	0	0.00
May	988.00	524	0.53	0	0.00	0	0.00	0	0.00	1	0.00
June	1,032.00	690	0.67	0	0.00	0	0.00	0	0.00	145	0.14
July	1,307.50	1,097	0.84	4,572	3.50	55	0.04	266	0.20	513	0.39
Aug.	2,426.00	1,688	0.70	6,751	2.78	209	0.09	78	0.03	25	0.01
Sept.	896.00	529	0.59	1,286	1.44	2	0.00	1	0.00	3	0.00
Total	6,959.00	4,701		12,609		266		345		687	
Grand	64,246.00	44,579		155,777		2,581		92,040		6,562	

Table 2. Westcoast troll program. Report of catch per unit effort by month and combined statistical area for 1984.

General Area: North Area 1-5	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
May	1,142.50	519	0.45	0	0.00	1	0.00	6	0.01	1	0.00
June	366.00	186	0.51	0	0.00	0	0.00	9	0.02	0	0.00
July	10,001.00	4,880	0.49	20,984	2.10	625	0.06	37,362	3.74	2,714	0.27
Aug.	8,394.50	6,232	0.74	9,645	1.15	819	0.10	50,087	5.97	1,841	0.22
Sept.	2,807.50	2,259	0.80	1,634	0.58	25	0.01	365	0.13	86	0.03
Total	22,711.50	14,076		32,263		1,470		87,829		4,642	

General Area: Central Area 6-12	Hours fished	Chinook		Coho		Sockeye		Pink		Chum	
		No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
May	1,495.00	1,050	0.70	0	0.00	0	0.00	2	0.00	9	0.01
June	423.00	326	0.77	0	0.00	0	0.00	1	0.00	0	0.00
July	5,604.00	3,597	0.64	14,715	2.63	197	0.04	2,222	0.40	932	0.17
Aug.	3,678.00	1,776	0.48	9,653	2.62	202	0.05	1,005	0.27	182	0.05
Sept.	1,163.00	949	0.82	1,085	0.93	3	0.00	26	0.02	46	0.04
Total	12,363.00	7,698		25,453		402		3,256		1,169	

Table 2 (cont'd)

General Area: South-west Vancouver Island

Area	Hours	Chinook		Coho		Sockeye		Pink		Chum	
21-24	fished	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
April	1,288.00	1,860	1.44	0	0.00	0	0.00	0	0.00	1	0.00
May	4,121.00	4,910	1.19	0	0.00	0	0.00	0	0.00	2	0.00
June	2,032.00	1,843	0.91	0	0.00	0	0.00	0	0.00	2	0.05
July	4,150.00	3,753	0.90	30,266	7.29	24	0.01	117	0.10	4	0.00
Aug.	3,570.00	2,605	0.73	21,026	5.89	123	0.03	3	0.02	0	0.00
Sept.	1,847.00	573	0.31	9,332	5.05	0	0.00	1	0.00	0	0.00
Total	17,008.00	15,544		60,624		147		121		9	

General Area: North-west Vancouver Island

Area	Hours	Chinook		Coho		Sockeye		Pink		Chum	
25-27	fished	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour	No. kept	Per hour
April	368.50	225	0.61	0	0.00	0	0.00	0	0.00	0	0.00
May	1,327.00	758	0.57	0	0.00	0	0.00	0	0.00	1	0.00
June	1,107.00	737	0.67	0	0.00	0	0.00	0	0.00	145	0.05
July	3,892.50	2,045	0.53	20,855	5.36	118	0.03	651	0.17	547	0.14
Aug.	3,987.00	2,642	0.66	13,940	3.50	442	0.11	182	0.05	41	0.01
Sept.	1,467.00	849	0.58	2,621	1.79	2	0.00	1	0.00	5	0.00
Total	12,149.00	7,256		37,416		562		834		739	

Table 3. 1984 West Coast Troll Log Program. Recovery of coded wire tags Coho.

Stat. Area	B.C.	Washington	Oregon	Alaska	California	Idaho	No pin in head	Pin unreadable	Head not recovered	Total heads delivered
1	17	6	1	5	0	0	12	0	4	45
2E	11	0	0	1	0	0	2	0	0	14
2W	7	2	0	2	0	0	0	0	0	11
3	0	0	0	0	0	0	0	0	0	0
4	0	0	0	1	0	0	1	0	1	3
5	0	0	—	0	0	0	1	0	0	1
	35	8	1	9	0	0	16	0	5	74
6	0	0	0	0	0	0	0	0	0	0
7	5	1	0	0	0	0	3	1	0	10
8	4	0	0	0	0	0	1	0	3	8
9	3	0	0	0	0	0	0	0	4	7
10	12	1	1	0	0	0	1	0	6	21
11	130	10	1	0	0	0	19	2	17	179
12	1	0	0	0	0	0	0	0	0	1
	155	12	2	0	0	0	24	3	30	226
21	63	260	27	0	0	0	61	6	29	446
23	139	406	27	0	0	0	89	5	62	728
24	79	88	4	0	0	0	23	1	75	270
	281	754	58	0	0	0	173	12	166	1444
25	96	56	2	0	0	0	22	4	43	223
26	109	54	4	0	0	0	14	3	43	227
27	101	47	3	0	0	0	16	1	6	174
	306	157	9	0	0	0	52	8	92	624
Total	777	931	70	9	0	0	265	23	293	2368

Table 4. West coast troll log program 1984. Recovery of coded wire tags - coho.

	North Area 1-5	Central Area 6-12	NW Vancouver I. Area 25-27	SW Vancouver I. Area 21-24	Total	%
Total coho heads delivered:	74	226	624	1444	2368	100.0
No. coho heads not recovered:	5	30	92	166	293	12.4
No. coho heads with "no pin"	16	24	52	173	265	11.2
No. coho heads with pin "unreadable"	0	3	8	12	23	1.0
No. coho heads with readable pins	53	169	472	1093	1787	75.4
Origin of tagged coho with readable pins:						
British Columbia	35	155	306	281		
U.S. Washington	8	12	157	754		
U.S. Oregon	1	2	9	58		
U.S. Alaska	9	0	0	0		
U.S. California	0	0	0	0		
U.S. Idaho	0	0	0	0		
Total	53	169	472	1093		
Percent Canadian tags:	66.0	91.7	64.8	25.7		
Percent U.S. tags:	34.0	8.3	35.2	74.3		

Table 5. 1984 West coast troll log program. Recovery of coded wire tags - chinook.

Stat. Area	B.C.	Wash.	Oregon	Alaska	Calif.	Idaho	No pin in head	Pin unreadable	Head not recovered	Total heads delivered
1	55	27	58	5	0	0	20	4	13	182
2E	5	7	42	0	0	1	10	1	2	68
2W	4	12	21	1	0	0	10	2	0	50
3	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0
5	1	2	0	0	0	0	0	0	1	4
	65	48	121	6	0	1	40	7	16	304
6	2	0	0	0	0	0	0	0	0	2
7	23	1	6	1	0	0	5	0	4	40
8	4	0	2	0	0	0	2	0	1	9
9	0	0	0	0	0	0	0	0	1	1
10	11	2	1	0	0	0	0	1	13	28
11	18	7	10	0	1	1	1	1	4	43
12	2	0	0	0	0	0	0	0	0	2
	60	10	19	1	1	1	8	2	23	125
21	9	21	14	0	2	3	6	0	1	56
23	50	52	54	0	10	3	28	2	80	279
24	10	16	21	0	4	1	3	4	17	76
	69	89	89	0	16	7	37	6	98	411
25	2	2	2	0	0	0	3	0	6	15
26	10	7	9	0	0	0	0	1	7	34
27	14	15	32	0	2	1	7	0	12	83
	26	24	43	0	2	1	10	1	25	132
Total	220	171	272	7	19	10	95	16	162	972

Table 6. West coast troll log program 1984. Recovery of coded wire tags - chinook.

	North Area 1-5	Central Area 6-12	NW Vancouver I. Area 25-27	SW Vancouver I. Area 21-24	Total	%
Total chinook heads delivered:	304	125	132	411	972	100.0
No. chinook heads not recovered:	16	23	25	98	162	16.7
No. chinook heads with "no pin"	40	8	10	37	95	9.8
No. chinook heads with pin "unreadable"	7	2	1	6	16	1.6
No. chinook heads with readable pins	241	92	96	270	699	71.9
Origin of tagged coho with readable pins:						
British Columbia	65	60	26	69		
U.S. Washington	48	10	24	89		
U.S. Oregon	121	19	43	89		
U.S. Alaska	6	1	0	0		
U.S. California	0	1	2	16		
U.S. Idaho	1	1	1	7		
	241	92	96	270		
Percent Canadian tags:	27.0	65.2	27.1	25.6		
Percent U.S. tags:	73.0	34.8	72.9	74.4		

Table 7. 1984 West coast troll log program. Ages and mean fork lengths (cm) of recovered coded wire tagged chinook.

	Age 3			Age 4			Age 5			Age 6			Age 7		
Stat. area	No. fish	%	Mean length	No. fish	%	Mean length	No. fish	%	Mean length	No. fish	%	Mean length	No. fish	%	Mean length
1	41	29.9	68.8	74	54.0	80.7	21	15.3	95.4	1	0.8	94.0	-	-	-
2E	46	83.6	66.3	9	16.4	77.3	-	-	-	-	-	-	-	-	-
2W	2	5.3	73.5	26	68.4	83.9	9	23.7	92.7	1	2.6	88.0	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	2	100.0	63.0	-	-	-	-	-	-	-	-	-	-	-	-
1-5	91	39.2	67.5	109	47.0	81.2	30	12.9	94.6	2	0.9	91.0	-	-	-
6	-	-	-	2	100.0	80.5	-	-	-	-	-	-	-	-	-
7	7	22.6	66.9	20	85.2	64.5	3	9.7	95.7	1	3.2	109.0	-	-	-
8	2	33.3	66.5	3	50.0	80.3	1	16.7	91.0	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	10	71.4	65.9	4	28.6	82.3	-	-	-	-	-	-	-	-	-
11	22	61.1	67.6	13	36.1	76.2	1	2.8	92.0	-	-	-	-	-	-
12	2	100.0	62.5	-	-	-	-	-	-	-	-	-	-	-	-
6-12	43	47.2	66.8	42	46.2	81.5	5	5.5	94.0	1	1.1	109.0	-	-	-
25	3	50.0	65.7	2	33.3	84.0	1	16.7	92.0						
26	11	45.8	68.0	10	41.7	77.8	3	12.5	85.7						
27	23	36.5	68.9	37	58.7	76.1	3	4.8	85.3						
25-27	37	39.8	68.4	49	52.7	76.7	7	7.5	86.4						
21	17	85.0	65.5	3	15.0	77.7	-	-	-	-	-	-	-	-	-
23	109	75.7	66.8	30	20.8	74.9	4	2.8	76.5	-	-	-	1	0.7	104.0
24	32	65.3	68.3	14	28.6	77.3	3	6.1	82.3	-	-	-	-	-	-
21-24	158	74.2	67.0	47	22.0	75.8	7	3.3	79.0	-	-	-	1	0.5	104.0

Table 8. 1984 West coast troll log program. Origin of B.C. coded wire tagged chinook recovered in 1984.

Release site	Recovered area 1-5	Recovered area 6-12	Recovered area 25-27	Recovered area 21-24	Total
Conuma R.	3	4	4	1	12
Puntledge R.	2	2			4
Quinsam R.	7	7	1		15
Chilliwack R.	2	9	7	41	59
Capilano R.	1	12	1	1	15
Harrison R.		4	4	19	27
Robertson Cr.	24	8	5	2	39
Porpoise Bay		1			1
Little Qualicum R.	7	1	2		10
Bonaparte Cr.				3	3
Hirsch Cr.	3				3
Tenderfoot Cr.		1			1
Little Nitinat R.	4	1			5
Kitimat R.	2				2
Nanaimo R.		3			3
San Juan R.		2			2
Atnarko R.	4	4			8
Yakoun R.	2				2
Shuswap R.	1		1		2
Cowichan R.			1		1
Big Qualicum R.	1	1		1	3
Babine R.	1				1
Canyon Cr.	1				1
Chehalis R.				1	1
	65	60	26	69	220

Table 9. 1984 West coast troll log program. Origin of B.C. coded wire tagged coho recovered in 1984.

Release site	Recovered area 1-5	Recovered area 6-12	Recovered area 25-27	Recovered area 21-24	Total
Haans Cr.	8				8
Capilano R.	1	11	20	54	86
Quinsam R.	1	58	48	21	128
Bella Coola R.	2	3			5
Robertson Cr.	13	15	104	69	201
Nanaimo R.	1	7	8	7	23
Puntledge R.	2	16	11	6	35
Dolly Varden Cr.	1	3	22	18	44
Pallant Cr.	6		1		7
Big Qualicum R.		19	14	7	40
Deadwood Cr.		2	1	1	4
Siddle Cr.				1	1
Post Cr.		9	19	20	48
Louis Cr.		1		5	6
Salwein Cr.		5	3	13	21
Birkenhead R.		1	12	14	27
Napoleon Cr.				1	1
Porpoise Bay		2	3	3	8
Chilliwack R.		2	14	24	40
Brunette R.		1	2		3
Sooke R.			3	2	5
Little Campbell R.			2	5	7
Lion Cr.			4	2	6
Noons Cr.			5	4	9
Wire Cache Cr.			2		2
Lemieux Cr.			1	1	2
Comox/Rees Cr.			3	3	6
Little Nitinat R.			3		3
Thornton Cr.			1		1
	35	155	306	281	777

Table 10. 1984 West coast troll log program. Flesh colour of coded wire tagged chinook.

Total no. graded for flesh colour	No. "red" chinook	%	No. "white" chinook	%	No readable pins in "white" chinook
708	660	93.2	48	6.4	39
Origin of "white chinook":			Chilliwack River		17
			Harrison River		12
			Hirsch River		2
			Atnarko River		2
			Kitimat River		1
			Capilano River		2
			U.S. Washington		2
			U.S. Oregon		1
					39

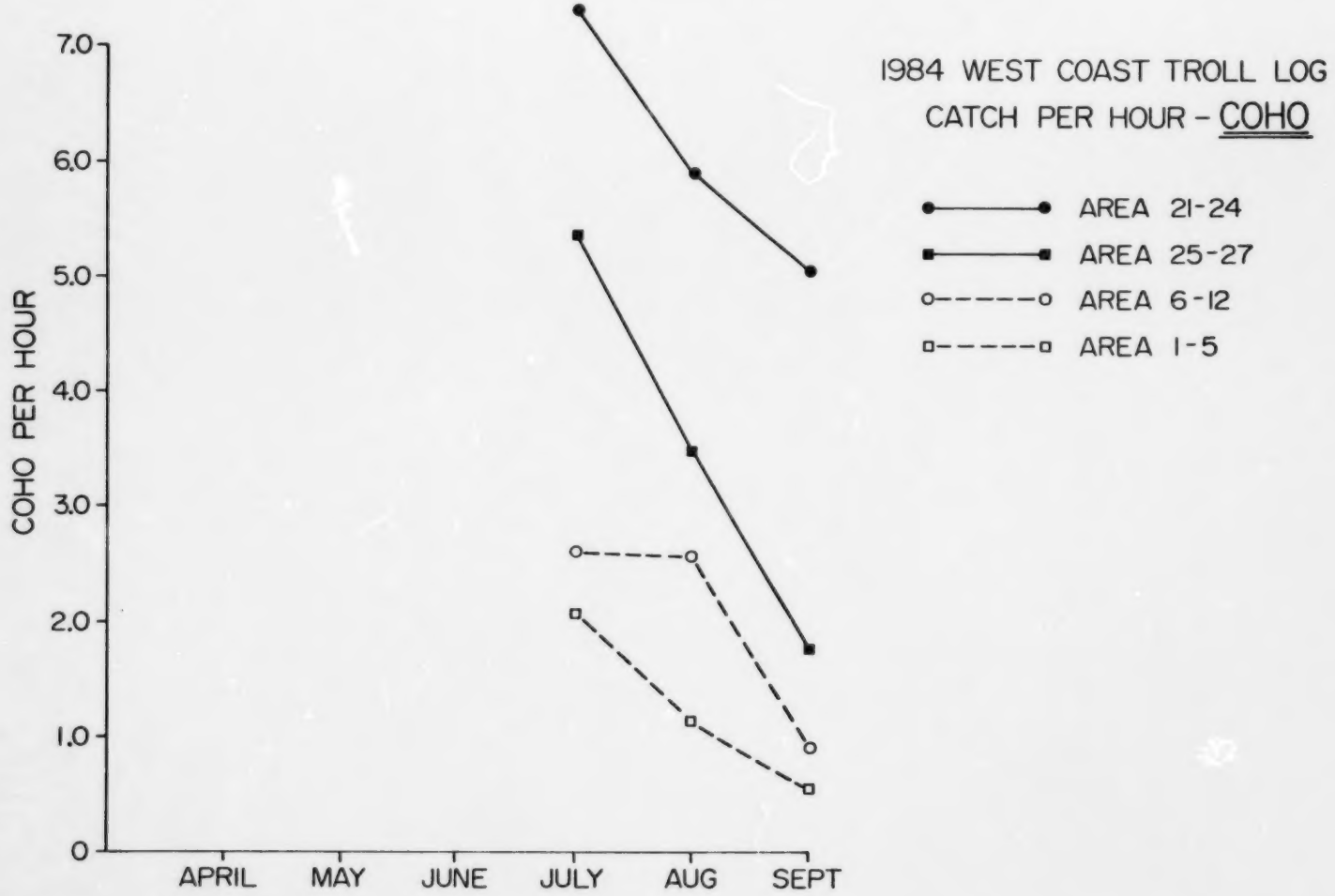

Fig. 1. Catch per hour for COHO in combined statistical areas.

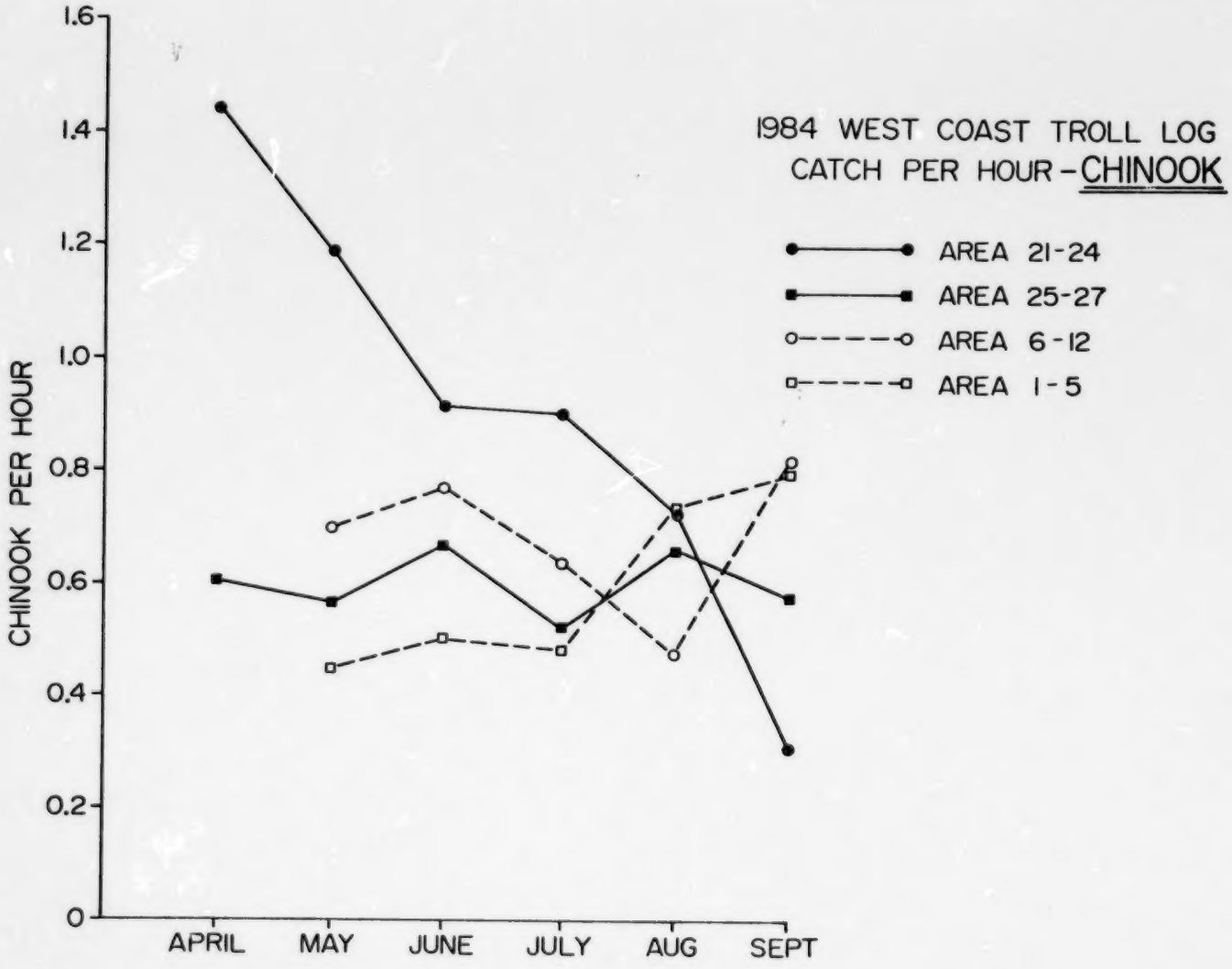

Fig. 2. Catch per hour for CHINOOK in combined statistical areas.

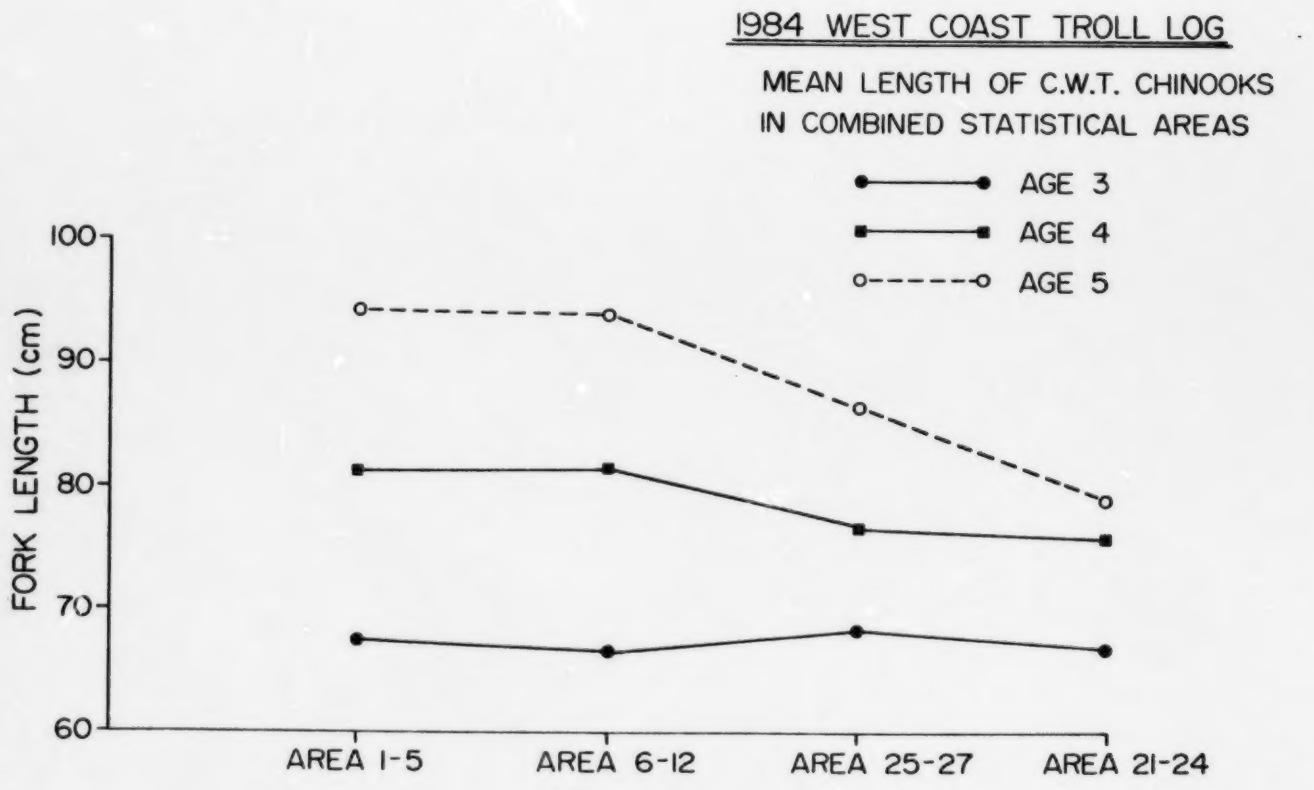

Fig. 3. Mean length of CHINOOK in different age classes in combined statistical areas.

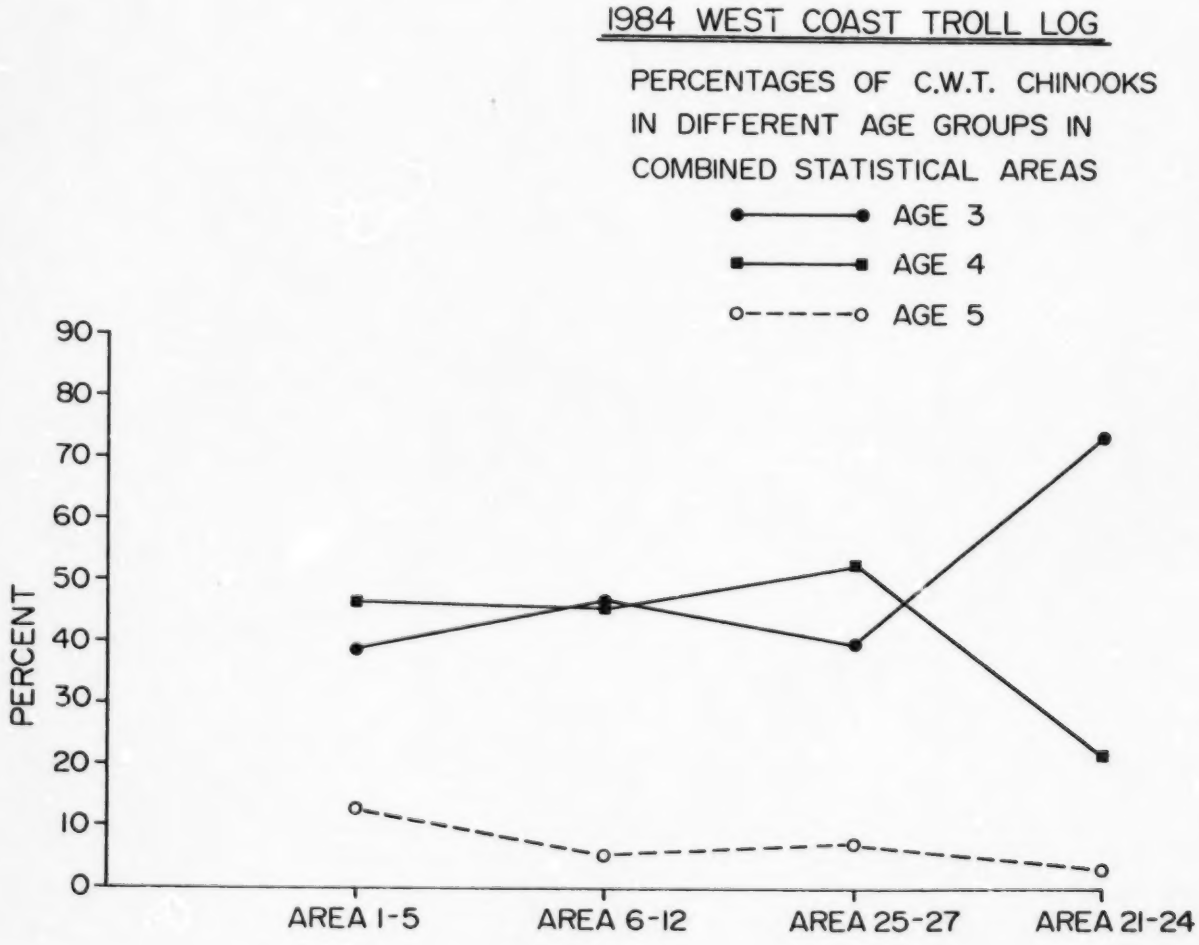

Fig. 4. Percentages of different ages of CHINOOK in combined statistical areas.

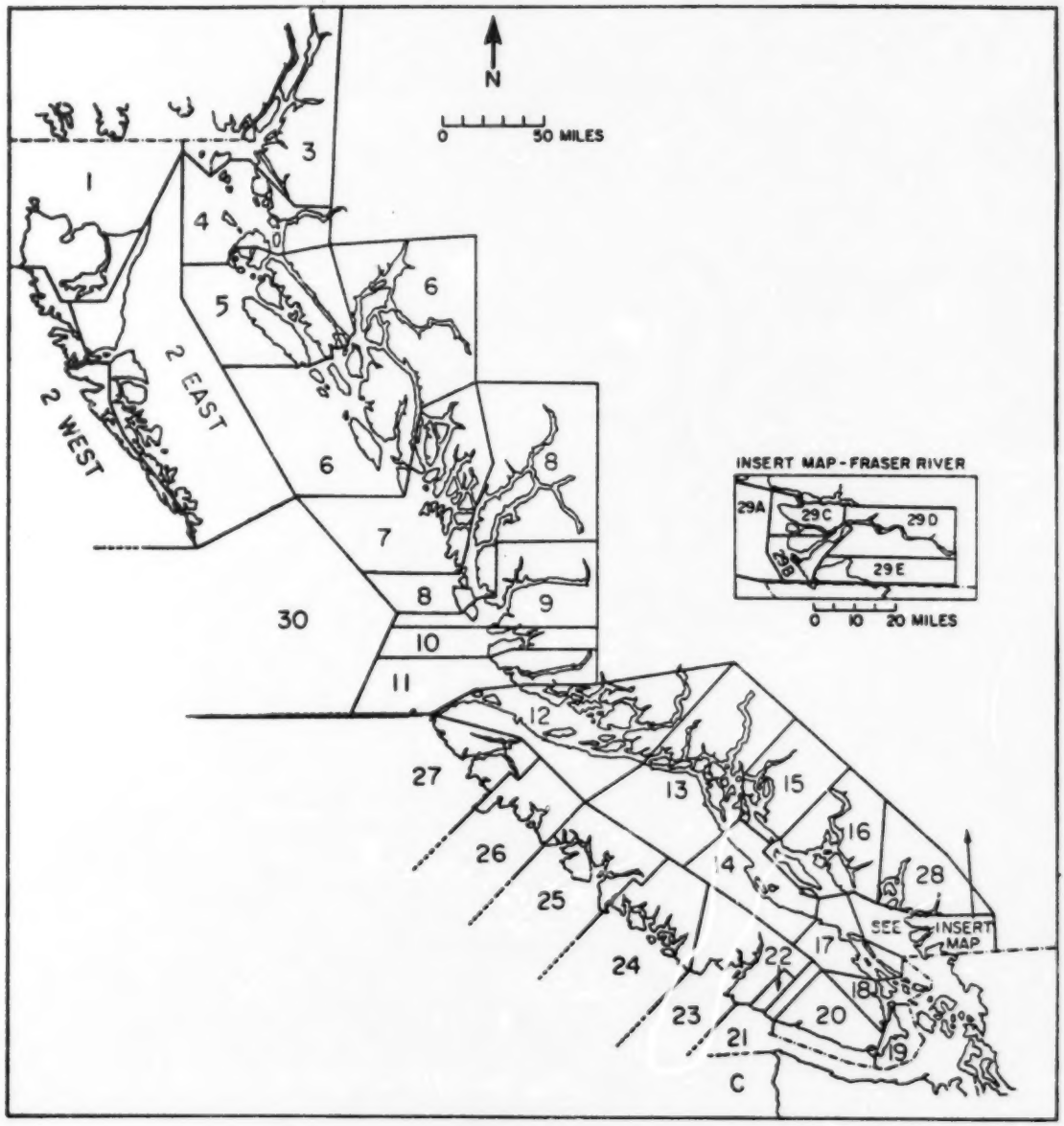

Fig. 5. Map of statistical areas in British Columbia.